

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Claims 1-46 cancelled.

47. (New) An apparatus for synthesizing a polymer, comprising:
- a carousel for rotating step-wise around an axis of rotation;
 - a plurality of liquid conduits formed within said carousel, wherein each liquid conduit is arranged on a radius with respect to said axis; and
 - a plurality of reaction mounts removably insertable onto said plurality of liquid conduits, wherein each liquid conduit forms a chamber below a corresponding reaction mount, wherein each reaction mount is adapted to receive at least one of a plurality of reagents for synthesizing the polymer.
48. (New) The apparatus of claim 47, further comprising:
- at least one reaction well formed within each reaction mount, wherein said at least one reaction well includes a drainage hole that communicates with the chamber formed below the reaction mount having said at least one reaction well.
49. (New) The apparatus of claim 47, further comprising:
- a plurality of exit ports protruding from the base of said carousel, wherein each exit port enables drainage from a corresponding liquid conduit.

50. (New) The apparatus of claim 48, further comprising:

at least one engagement port positioned under said carousel, wherein said at least one engagement port is raised or lowered to engage or disengage with at least one of said plurality of exit ports, wherein said at least one engagement port is connected to a vacuum line adapted to drain liquid from the engaged exit port.

51. (New) The apparatus of claim 47, further comprising:

a plurality of work stations positioned above said carousel, wherein each work station performs a physical step in a series of physical steps for synthesizing the polymer.

52. (New) The apparatus of claim 51, wherein at least one of said plurality of work stations is a dispensing module adapted to deliver at least one of said plurality of reagents for synthesizing the polymer to a reaction mount from said plurality of reaction mounts.

53. (New) An apparatus for synthesizing a polymer, comprising:

a carousel having a plurality of reaction mounts coupled to a first side and a plurality of exit ports protruding from a second side, wherein each exit port communicates with a corresponding reaction mount adapted to receive at least one reagent from a plurality of reagents for synthesizing the polymer; and

at least one engagement port positioned under said carousel, wherein said at least one engagement port is raised or lowered to engage or disengage with at least one of

said plurality of exit ports, wherein said at least one engagement port is connected to a vacuum line adapted to drain liquid from the engaged exit port.

54. (New) The apparatus of claim 53, further comprising:

a plurality of liquid conduits formed within said carousel, wherein said plurality of reaction mounts are removably insertable onto said plurality of liquid conduits, wherein each liquid conduit forms a chamber below a corresponding reaction mount, wherein each of said plurality of exit ports enables drainage from a corresponding liquid conduit.

55. (New) The apparatus of claim 53, further comprising:

a plurality of work stations positioned above said carousel, wherein each work station performs a physical step in a series of physical steps for synthesizing the polymer.

56. (New) An apparatus for synthesizing a polymer, comprising:

a carousel having a plurality of reaction mounts removably insertable onto a plurality of liquid conduits, wherein each liquid conduit forms a chamber below a corresponding reaction mount; and

a plurality of work stations positioned above said carousel, wherein each work station performs a physical step in a series of physical steps for synthesizing the polymer.

57. (New) The apparatus of claim 56, wherein at least one of said plurality of work stations is a dispensing module adapted to deliver a reagent for synthesizing the polymer to a reaction mount from said plurality of reaction mounts.

58. (New) The apparatus of claim 56, further comprising:
a plurality of reaction wells formed within each reaction mount, wherein each reaction well includes a drainage hole that communicates with the chamber formed below the reaction mount having said plurality of reaction wells.

59. (New) The apparatus of claim 58, wherein said dispensing module moves radially relative to said carousel and is adapted to deliver a fluid to each reaction well within said reaction mount.

60. (New) The apparatus of claim 56, wherein at least one of said plurality of work stations is a temperature controller adapted to regulate temperature at a reaction mount from said plurality of reaction mounts.

61. (New) The apparatus of claim 56, wherein at least one of said plurality of work stations is an optical analyzer adapted to analyze a polymer synthesis occurring at a reaction mount from said plurality of reaction mounts.

62. (New) The apparatus of claim 56, further comprising:
a plurality of exit ports protruding from the base of said carousel, wherein each exit port enables drainage from a corresponding liquid conduit.

63. (New) The apparatus of claim 62, further comprising:

at least one engagement port positioned under said carousel, wherein said at least one engagement port is raised or lowered to engage or disengage with at least one of said plurality of exit ports, wherein said at least one engagement port is connected to a vacuum line adapted to drain liquid from the engaged exit port.